HANDBOOK OF PHONOLOGICAL DATA
FROM A SAMPLE OF THE WORLD'S LANGUAGES

A Report of the Stanford Phonology Archive

Compiled and edited by

John H. Crothers
James P. Lorentz
Donald A. Sherman
Marilyn M. Vihman

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265 Punjabi

265 01 p[01]

265 02 p-long[01]

265 03 p-aspirated[01]
*[f]

265 04 p-aspirated-long[01 03]

265 05 b[01]

265 06 b-long[01]

265 07 t-laminal[01 02]

265 08 t-laminal-long[01 02]

265 09 t-laminal-aspirated[01 02]

265 10 t-laminal-aspirated-long[01 02 03]

265 11 d-laminal[01 02]

265 12 d-laminal-long[01 02]

265 13 t-retroflex[01 04]

265 14 t-retroflex-long[01 04]

265 15 t-retroflex-aspirated[01 04]

265 16 t-retroflex-aspirated-long[01 03 04]

265 17 d-retroflex[01 04]

265 18 d-retroflex-long[01 04]

265 19 k[01 05]

265 20 k-long[01 05]

265 21 k-aspirated[01 05]

265 22 k-aspirated-long[01 03 05]

265 23 g[01 05]

265 24 g-long[01 05]

265 25 t/s-hacek[01 06 07]

265 26 t/s-hacek-long[01 06 07]

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27 t/s-hacek-aspirated[01 06 07]

28 t/s-hacek-aspirated-long[01 03 06 07]

29 d/z-hacek[01 06 07]

30 d/z-hacek-long[01 06 07]

31 f[08 31]
(loan,free)
*/p-aspirated/

32 s-laminal[02]

33 s-laminal-long[02]

34 z-laminal[02 32]
(loan)

35 s-hacek-retroflex[04]

37 m

38 m-long

39 n-laminal[02]

40 n-laminal-long[02]

41 n-retroflex[04]

42 n-palatal[06]

43 eng[05]

44 l-laminal[02]

45 l-laminal-long[02]

46 l-retroflex[04]

47 r-trill[02 09]

48 r-flap-retroflex[04 10]

49 h-voice

51 i

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52 i-nasalized[36]

53 iota[13 35]

54 iota-nasalized[13 35 36]

55 e-mid

56 e-mid-nasalized[36]

57 ash

58 ash-nasalized[36]

59 schwa[13 14 34 35]

60 schwa-nasalized[13 14 35 36]

61 a[15]

62 a-nasalized[36]

63 u[16]

64 u-nasalized[16 36]

65 upsilon[13 16 35]

66 upsilon-nasalized[13 16 35 36]

67 o-mid[13]

68 o-mid-nasalized[13 36]

69 alpha[13]

70 alpha-nasalized[13 36]

71 yod[37]

72 w[38]
[w-nasalized] [61]

81 high-rising

82 mid

83 low

265 $a Punjabi $b Majhi $d Indic $e N India (Punjab) $f 50 million $g Merritt Ruhlen $g Gary Holland (review) $g John Crothers (editor)

265 $a Gill, H. S. and H. A. Gleason, Jr. $b 1963 $c A Reference Grammar of Panjabi $f (Hartford Studies in Linguistics, No.3) $g Hartford: The Hartford Seminary Foundation $q co-author presumably native speaker

265 $a ACCENT $A The tones constitute a tonal accent system in that each word has one and only one tone. Location of the accent is distinctive, falling on either the first (much more commonly) or second syllable. The pretonic syllable is neutral, the posttonic syllable is relatively high in pitch, about the same height as a preceding /high-rising/, and considerably higher than preceding /mid/ or /low/.

265 **$a NASAL VOWEL PROSODY** $A "Nasalization of vowels is sometimes predictable. In these positions it is treated as non-phonemic.... In other positions nasalization is nonpredictable.... All types of nasalization spread over any sequence of vowels not interrupted by a true consonant. /w/ does not limit the domain of nasalization." (p.20-21)

265 **$a PHONOLOGICAL WORD** $A initial C: not /r-flap-retroflex, l-retroflex, n-retroflex, n-palatal, eng/; not geminates $A final C: not /h-voice, n-palatal/; not geminates $A final CC: stop + stop; /l-laminal/ + stop, sibilant, or nasal; /r-flap-retroflex/ + stop, sibilant, lateral, or nasal; nasal + stop (homorganic and heterorganic); sibilant + stop or nasal (p.28ff)

265 **$a SYLLABLE** $A (C)V(C)(C)

265 **$a TENSE VOWELS $a LONG VOWELS (NON-DISTINCTIVE)** $A The authors distinguish between "centralized" vowels, /iota, upsilon, schwa/ and "peripheral" vowels /i, e-mid, ash, u, o-mid, alpha, a/. Though traditionally referred to as "short," the former are characterized by "their centralization," and the associated laxer articulation. In addition tone affects length and tenseness, with high tone vowels shorter and more lax, and low tone vowels longer and more tense. (p.12)

265 **$a TONE** $A domain of tone: word $A The authors describe tones as being realized over two syllables, the "onset" syllable and the "tail" syllable. "The three tones contrast on onset syllables in at least three ways: pitch level, pitch contour and duration. Of these pitch level is often the most conspicuous, but is also most affected by intonational pitch.... High tone is higher...than the other two. There is a marked up-glide. The syllable is shorter than with either of the other two. Mid tone is intermediate in pitch between the other two.... There is a slight up-glide. The syllable is of intermediate length. Low tone is the lowest tone. The pitch tends to fall slightly, never to rise. The syllable is appreciably prolonged by comparison with the other two. The actual pitch of a syllable is affected both by intonational pitch and by tone." (p.50-53) "The syllable immediately after a tone onset...bears the tone tail. That is to say, its pitch is predictable from the tone and serves in a secondary way as a cue for recognition of the tone. It may be affected by following tone, but this effect is relatively minor. The tail of a high tone tends to remain level if the next tone-bearing syllable is relatively high.... Otherwise it may fall very slightly. The tail of a mid tone generally rises appreciably, though this rise is reduced if the next tone bearing syllable is relatively low. The tail of a low pitch rises even more than that of a mid tone." (p.54-55)

265 01 $A "All stops are lenis in medial position after centralized vowels [i.e. /iota, schwa, upsilon/] unless geminated. Geminated stops occur only after centralized vowels and are fortis. The contrast does not occur after peripheral vowels, and in this position the stops tend to be neither markedly lenis nor markedly fortis." (p.24)

265 02 $A "Dental articulations are...always blade rather than tip. The contrast with the retroflex articulation is as much, at least, in the articulator as it is in the point of articulation." (p.24)

265 03 $A "Geminate aspirates are prolonged and aspirated only at the final release; they are phonetically similar to a cluster of an unaspirated stop and the homorganic aspirate. There is, however, no structural reason to consider such geminates as different from others." (p.36-37)

265 04 $A "Retroflex articulations are apical and alveolar or very front palatal. The articulator is always the tip of the tongue, never the blade, and may involve the lower surface. The retroflection, however, is generally weak." (p.23-24)

265 05 $A "Velar articulations vary from prevelar to midvelar or slightly postvelar. The exact articulation is conditioned by adjacent vowels." (p.23)

265 06 $A "Palatal articulations are frontal and prepalatal." (p.23)

265 07 $A "The tongue tip is normally depressed for the palatal affricates." (p.23)

265 08 $A /f/ is "labiodental or bilabial." (p.25)

265 09 $A /r-trill/ is "generally fairly weakly trilled."

265 10 $A /r-flap-retroflex/ "never has more than one constriction (i.e. never trilled)." (p.25)

265 13 $A "The centralized vowels /iota, schwa, upsilon/ are...more or less centralized in articulation.... /iota/ is slightly less front than /i/, and /upsilon/ is slightly less back than /u/." (p.12)

265 14 $A "/schwa/ is only slightly higher than /a/." (p.12)

265 15 $A /a/ is "slightly fronted before dental consonants, and slightly backed before velar." (p.12)

265 16 $A "The back vowels, including the centralized back vowel [i.e. /upsilon/-[MR]], are weakly rounded, /u/ a bit more than the others. No pair of vowels is distinguished only or even

primarily by rounding." (p.4)

265 31 $A "/f/ occurs in loan words from Urdu in the standard speech of educated people and in the written language. In colloquial speech, however, /p-aspirated/ is substituted. Or rather, in colloquial speech there is no contrast between [f] and [p-aspirated], the tendency being to use only [p-aspirated] initially, and to vacillate between [f] and [p-aspirated] in intervocalic and final positions, often with a decided preference for [f]." (p.30) [f] is "commoner in more rapid speech and less formal diction." (p.25)

265 32 $A "/z/ occurs in loan words from Urdu in the standard speech of educated people and in the written language. In colloquial speech, however, /d/z-hacek/ is usually substituted. Occasionally a further substitution affecting also words with /d/z-hacek/ in standard speech occurs, and /yod/ is pronounced in initial position. /z/ occurs in many positions, ...but is...very infrequent." (p.31)

265 34 $A "Most occurrences of /schwa/ are completely predictable from the pattern of consonants and other vowels. In general, there can be no initial clusters, so initial consonants must be followed by /schwa/ if no other vowel occurs.... /schwa/ is not predictable only in two situations." (p.39)

265 35 $A "The centralized vowels /iota, schwa, upsilon/ do not occur in word final position except in...[a few] function words, all very common, all monosyllabic, and all with mid tone." (p.14)

265 36 $A "Before consonants, nasalization [is] often accompanied by a homorganic nasal inglide to the consonant." (p.20)

265 37 $A "/yod/ occurs only initially, and largely only before the back vowels, /schwa/, and /a/." (p.17)

265 38 $A "/w/ does not occur finally. It is commonest before front vowels, /schwa/, and /a/ in initial position. /w/ occurs medially only when either preceded or followed by a front vowel, in the sequences /a.w.a/ and /schwa.w.a/ or syllable initial after consonants." (p.18)

265 61 $A /w/ is nasalized adjacent to a nasalized vowel. (p.21)